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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/838,801

04/20/2001

Alexander Berk

SPSC/0103

3353

7590

09/21/2006

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EXAMINER

STEVENS, THOMAS H

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/838,801	BERK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thomas H. Stevens	2123	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 and 19-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-17,19-33 were examined.
2. Claim 18 was cancelled.

### ***Section I: Non-Final Rejection***

#### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/26/2006 has been entered.

### ***Claim Objections***

4. The examiner has provided a number of claim deficiency examples to which could pose a possible antecedent problem; however, the list of deficiencies may not be inclusive. Applicant should refer to these as examples of deficiencies and should make all necessary corrections to eliminate the claim objections. The Office suggests applicant review and amend each case as applicable (e.g., changing "the" to "a" or vice versa).

- Claim 1, line 6 and 7, "the spectral resolution"
- Claim 1, lines 8-9, "the equivalent width"
- Claim 12, line 2, "the normalized spectral"

- Claim 13, line 2, "the spectral band"
- Claim 17, line 2, "the determination"
- Claim 17, line 8, "the bin Voigt"
- Claim 22, line 1, "the Voigt"

All claims have been treated on their merits.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-17, 19-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "the spectral region" in line 6. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 5 recites the limitation "the column strength" and "the Lorentz half-width" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 5 recites the limitation "the Doppler half-width" and the "the line" in line 3. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 14 recites the limitation "the Pade parameters database" in line 1. There is insufficient antecedent basis for this limitation in the claim.

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11. Claim 17 recites the limitation "the spectral region" in line 6. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 20 recites the limitation "the exact expansion" in line 1. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 21 recites the limitation "the column strength", "the Lorentz half-width", "the Doppler half-width" and "the line tail spectral displacement" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 23 recites the limitation "the spectral region" in line 6. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 28 recites the limitation "the normalized spectral variable" in line 2. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 29 recites the limitation "the spectral band" in line 2. There is insufficient antecedent basis for this limitation in the claim.

17. The term "about 0.1 cm<sup>-1</sup>" in claims 2, 19 and 33 is a relative term which renders the claim indefinite. The term "about 0.1 cm<sup>-1</sup>" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Double Patenting***

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

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and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claim 1 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 18 of copending Application No. 11/398,696. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both disclose species of band model data.

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20. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 101***

21. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

MPEP 2106, section 4.

Claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are more complex to analyze and are addressed below. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

22. Claims 1-17, 19-31 are rejected under 35 U.S.C. 101 because the limitations are directed toward a mathematical algorithm, per se, rather than a practical application of the algorithm.

***Section II: Response to Arguments***

***101***

23. Applicants are thanked for addressing this issue. Although the claims have been amended the question still stands as to the specific application of spectral transmittances; nowhere in the disclosure is there an example of a real-world application (i.e., used for spectral analysis, chemical distinction or metallurgy, etc). The claims must reflect a specific credible utility. Rejection stands.

***“Background of the Present Application”***

24. Applicants are thanked for responding to this issue. The Office queried applicants (see after final) regarding whether the MODTRAN 4 in the background summary of the disclosure was an admission of the invention. Although applicant states the latter piece of art is distinguishable from the present invention, the response was silent as its distinction. Although no art rejection was initiated, the Office would appreciate a brief summary of the differences between MODTRAN 4 and the invention.

***Citation to Relevant Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- MODTRAN 4 User's Manual, Air Force Research Lab Hanscom AFB 1999 pg.1-95 provides user instructions for the MODTRAN4 band model.
- MODTRAN Cloud and Multiple Scattering Upgrades with Application to AVIRS 1998 Pg. 368-375 teaches atmospheric radiation modeling.



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***Correspondence Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

September 12, 2006

TS

  
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9/12/06